



NITE-TIMES NEWS

CHICAGO AREA TIMEX USERS GROUP

Chicago Area Timex Users Group
Volume 5, Number 1

Downers Grove, Illinois
January/February 1991

MEMORY MAP

ROUTINES

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C.A.T.U.G. CLUB OFFICERS

Here is the list of 1991 club officers and how to contact them. The club has two strong SIGS, SPECTRUM/TS2068 and QL. If you have questions about either of these fine machines or even the ZX81/TS1000/TS1500 call one of the officers. C=312, S=708.

POSITION	NAME	PHONE	PRIMARY FUNCTION
President	Nazir Pashtoon	S434-1679	The buck stops here...
Vice-President	Steve Cooper	S968-3553	Meeting Planning, etc.
Secretary	John Donaldson	S232-6147	Records and Reporting
Treasurer	Al Feng	S971-0495	Dues and Purchasing
Editor	Bob Swoger	S576-8068	Newsletter, BBS, etc.

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NITE-TIMES NEWS

Volume V, Number 1

1

January/February 1991

Nite-Times Information

The Nite-Times News is the newsletter of the Chicago Area Timex Users Group. For an annual fee of \$12.00 you can become a CATUG member with full membership privileges. Send your dues to:

**CATUG TREASURER AL FENG
15 WAKE ROBIN CT
WOODRIDGE IL 60517**

The Chicago Area Timex Users Group is pleased to exchange newsletters with other Timex and Sinclair supporting users groups at no charge. Send all newsletter requests to:

**CATUG EDITOR BOB SWOGER
613 PARKSIDE CIRCLE
STREAMWOOD IL 60107-1647**

If you desire to reprint any articles that appear here, please provide credit to the author and this newsletter.

We encourage your user group to copy this newsletter and distribute it at your regular meetings to your members free of any charge as we believe that this will encourage better meeting attendance. If you are a user group that feels as we do, please let us know in your newsletter so that we might do this for our members and keep our attendance up.

Articles originating from our group may be downloaded from our BBS and reprinted.

CONTRIBUTORS TO THIS ISSUE

**Al Feng
John Donaldson
Nazir Pashtoon
Bob Swoger, K9WVY**

CLUB MEETINGS

The Chicago Area Timex Users Group meets on the THIRD Saturday of each month at the home of our meeting coordinator Steve Cooper in Downers Grove, Illinois from 1:00 to 5:00 PM. Steve's home is lovingly called

the CLUB HOUSE and is located at 1300 Maple Street in Downers Grove just 2 blocks southwest of the Downers Grove Public Library. Steve should be contacted evenings at 708/968-3553. to confirm the meeting schedule.

When visiting be careful of the Dutch Dooooooooooooorrrrrrrrr.....

INPUT/OUTPUT

We did cause a stir with our last INPUT/OUTPUT, didn't we ROD? Well, for sure, we know now that someone is reading our stuff! I believe I will try to shake something loose again. And now, the obituaries!

THE OBITUARIES

The Chicago Area Timex Users Group of Illinois has not heard from the following groups for more than six months and now presume them to be DEAD! After this issue we will no longer send them news letters. [Strange we don't get them back as undeliverable!]

HARRISBURG AREA TSUG NEWSLETTER
VISTA NEWSLETTER OF WASHINGTON
THE DATA EXPANSION FORT WORTH
TSUG MILE HIGH OF DENVER
PACC TALK OF PITTSBURGH
THE SYNC TIMES OF JACKSONVILLE
THE DATA BUS OF DAYTON
KATS KOMPUTER NEWS OF KANSAS
CRAGIST NEWSLETTER OF IOWA
THE RAMTOP

If any other group is still exchanging newsletters with these groups, CATUG would sure like to hear about it.

FROM THE EDITOR'S DESK

Sorry for the delay in getting out the newsletters for the last few months, guys, but an article in the PLOTTER got me going and I had to invest a little of my time to the problem. The problem? CCATS asked Don Lambert what was going on with SNUG and Don answered in a nice long letter.

It was informative also to the extent that I saw something that needed our attention and that was that we need a new head of the NorthAmerican Users Group and Don is the right man for that job. I simply asked Don for a disk copy of his letter to CCATS and turned it into a newsletter. At 4AM one morning I got up, went to my trusty TS2068 and began typing.

I thought it appropriate to give the organization a new name, called Al Feng that afternoon and he came up with a newsletter name. I called Don up and told him what I was up to, that is, he would become the chairman of a new organization that could SPRINT forward unimpeded. He could 'take it and run with it.' He graciously consented. I sent him a rough draft of the new newsletter and the day he received it he called and told me to 'SHIP IT!'.

If this works out, the T/S community can now line up behind Don Lambert and T/SNUG, all the officers of the present SNUG included for we don't want to lose them or cause any bitterness, and the Timex/Sinclair NorthAmerican Users Group will be underway.

Paul, Frank and Mel - you men are just too busy to do what is needed and I'll bet your ears are burning anyway as the inactivity of SNUG is brought up at nearly every meeting of every group all over this continent. Please know that we understand. Don is retired and has a bit more time to contribute than you. We wish you men to smile now that the 'HEAT IS OFF', ease your minds and offer Don the help that he will need to get this endeavor going.

Let us now all give Don our support. Watch for the forthcoming T/SNUG newsletter, ZXir QLive Alive!

Bob Swoger, Editor
Chicago Area Timex Users Group

TREASURY NOTES

Our balance stands at \$379.23
Our current paid membership
stands at 12.

Al Feng, Treasurer
Chicago Area Timex Users Group

SECRETARYS NOTE PAD

Red Face Department:

An error crept into the November 17th notes which were carried in the NOV/DEC 1990 NTN. Jim Brezina, my source, asks that we change the first full paragraph on page 5 to read.

For those who have a Zebra disk drive: It will work with either a TASMAN "C" or "B" interface but CP/M WILL NOT work with the "B" interface. (Sorry 'bout that, Jim!)

January 19, 1991

Meeting opened at 2:21PM.
Present: Messrs. Brezina,
Cooper, Donaldson, Feng, Mills,
Pashtoon, Sauter and Swoger.

A correction was made to the minutes for our December meeting: Bob Swoger is not our new Vice President. Steve Cooper, host at our monthly get-togethers, was duly elected and has the great honor of holding that position. (Guess this means no coffee for Donaldson?) Sorry, Steve.

Some encouraging words were said about the Yuletide graphics and professional appearance of the Nite-Times News. The praise was long overdue. The editor is seldom recognized until something goes wrong. Nice job, Bob Swoger!

Treasurer Feng reported a bank balance of \$317 prior to this meeting but with Steve Cooper's purchase of the club's color monitor (since it'll be in his home 24 hours a day), the club's income rose to \$387 - which Al assures us won't stay that way for long.

Bob Swoger attended a recent Glenside (CoCo) Computer Club meeting and brought back a modem for your Secretary's QL. It was a gift from an old Bell Labs pal, Mike Knutsen, author of Ultra-Muse, a music program for the Radio Shack Color Computer. A big THANK YOU, Mike. Hope you sell a lot of software! ...Now all I have to do is to find the software and wire it up from one end of the house to the other. Hmm

Bob also came away with a hard disk case and power supply that was quickly sold to Al Feng. My, oh, my, how the money goes round!

Bob then revealed that he has hooked up a double-sided disk drive so he can now supply LogiCall customers, etc., 360K DSDD disks. But so far, he hasn't got 80 track capability. Best part is that now he can read corrupted disks and exchange disks with those who work to 360K.

A tiny bug (a microbe, really) has been discovered in the TASWORD portion of existing copies of his LogiCall program. If you type in a filename and include an unprintable character, you'll end up in left field. There was a trap in line 3 or 4 of the program that says if the character selected <32 OR >127, go back to line 9 and pick up a valid character. But in trying to economize, Bob used "PI" in place of 3, e.g., PI plus PI equals 6; PI times PI equals 9, etc. WRONG! Pi times PI is closer to 10. And the bug was born. The solution is to go to the beginning of the program and change PI*PI to the value 9. Then the program runs smoothly. Some programmers are too clever for their own good, aren't they?

Speaking of LogiCall, RMG is in the talking stages with Swoger about distribution. Interest is being shown by Mountaineer Software and Sinc-Link, too.

Derek Ashton's 747 Flight Simulator for the TS2068 is also

creating quite a stir. They're priced at \$10 a copy and Bob just sold 9 copies and enjoys watching Derek's face light up when he hands him the money.

It was with more than a hint of pride that Bob announced that he's up to date on his newsletter backlog. And while we tease Bob a lot, we were happy to see his name in Vulcan's Computer Monthly recently.

A reply to an editorial by Rod Gowen was made in our last Nite-Times News by Swoger. This generated a lot of discussion in our group, all of it supporting Bob's point. If you don't print a newsletter, nobody will know you're alive and everyone will soon come to the conclusion that Sinclair/Timex is dead. Not so! This - and every other - T/S newsletter is evidence that it isn't.

Al Feng stated that CATUG's QL public domain disk has been updated and is available from him for \$2 postpaid. [Please specify 3.5" or 5.25" disk.]

Donaldson repeated some of his conversation with Mark Steuber of Sharp's. Mark said that a year ago, his business was 90% QL; now it's 90% IBM clones. Since this is his only source of income, it has to be that way. But he promises that as long as there's a market for QL goodies and a supply of same, he won't dump the QL. So show your appreciation and interest: Buy something!

Ending on a sour note, Bob Swoger received the SMUG newsletter, well, sorta. He got the back page. That was all. No front page; no in-sides; not even a staple! SMUG has got to do a better job with packaging and mailing or the U.S. Mail must have it in for them. But let's not put it all on the Post Office. [Please let us know if our newsletter isn't arriving on good shape.]

The meeting was adjourned at 2:59PM.

February 16, 1991

The meeting was called to order at 2:50PM with Messrs. Brezina, Cooper, Donaldson, Feng, Mills, Pashtoon, Sauter and Swoger attending.

The new president of the local Motorola Computer Club is - who else - Bob Swoger. Congratulations are in order. It's a lot bigger club than ours. Then someone said, "Now we know why he didn't want to be an officer in our club!" Perhaps.

Bob, who is also involved with CoCos tried to convince us that the CoCo is an orphan computer like a Timex or Sinclair since Radio Shack stopped producing them a year ago and no longer supports them, just sells them. We didn't buy that, but he did bring in a rumor that a couple of people are trying to design a system around a 68070 chip using something like a CoCo DOS.

Bob is grateful to the author of the file compressor program for TASWORD. It can really scrunch them down! He thought it came from Toronto but just couldn't place the author or program name. However, he discovered a problem. If you compressed a program once, it was O.K. But if you tried to do it the second time, it blew up. So he wrote a couple of lines of code. Now when he tries to compress the file a second time, it tells him it was done once before.

Nazir Pashtoon had a call from Omar Firestone of California who is interested in using a 68HC349 CMOS chip (one with lots of pinouts) to produce a computer based on the QL design within a two year time period. So the advantages of the QL aren't dead in the minds of some designers.

Speaking of chips, Nazir points out that while our QL CPU can access 1 MB of memory, the 68008FN (a 52-pin square pack, higher speed processor) can access 4 MB of memory. He has a

sample; it has caught his eye; and he's trying to gain an extended memory for his QL. We will have to wait for developments.

SNUG came up for comments again. It appears that Don Lambert will become the new editor of its newsletter. Hopefully, this will lead to better communication, something that has been lacking.

There were some very favorable words for Jack Dohany and his Fairware. To sum up, Jack, you're one of the good guys. We understand your move away from selling software to concentrate on programming and we wait with baited breath for what will come of this.

The meeting was adjourned at 3:38PM and was followed by a hardware demo by Nazir Pashtoon. It should have been called "What Do You Mean, Read ONLY Memory?" An explanation will be found elsewhere in this issue.

John Donaldson, Secretary
Chicago Area Timex Users Group

GATOR's TWISTED PAIR

! ! ! R E M E M B E R ! ! !
We have a 24 hour BBS and encourage you to exchange mail and contribute to the Download Section. Use it and have fun!

* CATUG BBS *
* 708/576-7072 *
* Type at the > prompt: *
* MOTOROLA then GUEST *
* BYE to log out *
* Commands are: DIR,TYPE,MAIL *
* UPLOAD filename.type *
* DOWNLOAD filename.type *

Bob Swoger, SYSOP
Chicago Area Timex Users Group

NEWS ITEMS

Plan to attend the DMA Computer Fest at the Hara Arena and

Conference Center in Dayton Saturday and Sunday, August 24th and 25th, 1991. Get your money to Gary Ganger 812 Hedwick St., New Carlisle, OH 45344-2619 for tickets and tables before June 30th. His phone number is 513-849-1483. Talk it up at your user group meetings. The Sinclair clan will be grouped together.

ITEMS FOR SALE THROUGH THE CLUB

LogiCall AOS-LKDOS Software Ensemble for TS2068 and Spectrum includes LogiCall 4.4 TASWORD II V2.4 VU-CALC VU-FILE and MTERM2 Drivers modified for LogiCall, DISKS.B1 TAPES.B1 steprt.B1 HEADER.BT (tape header reader by Nazir Pashtoon) FORMAT.B MOVE.BL and more all on 2 SSDD disks for \$5. You must specify your LK-DOS EPROM version. If you already have a copy you are encouraged to distribute copies to other LarKen LK-DOS users for as you see by the price we are not in the business of making money on it, just making LarKen's LK-DOS the BEST!

So you like to fly? The 747 Flight Simulator for Spectrum by Derek Ashton of DACC sold over 40K copies in EUROPE. Requires Spectrum Emulator. Supplied on LarKen SSDD or DSQD disk only at this time for \$10 which goes to Derek Ashton now working at MOTOROLA, INC., Schaumburg, IL.

Call in requests to Bob Swoger at W708-576-8068 H708-837-7957

Want to try MS-DOS first before you switch? Try QLuMSi DOS, the MS-DOS SIMULATOR on your QL first.
QLuMSi (disk/specify)\$15

Try Al's Side-Kick on your QL. It is an AOS like LogiCall on the TS2068 and can make your life on the QL a lot easier [you may never lust for MS-DOS again!] QLUSTER (disk/specify)\$10

CALL: Al Feng H(708) 971-0495

SPECIAL DEALS AND BUYS

It has come to our attention that some LarKen Users are using something less than Version 3 firmware. The club will supply updated EPROMS, SYSTEM DISKS, and MANUALS for just \$5 which includes shipping and handling, free if ordered with LogiCall or Spectrum ROM.

If you are a LarKen LK-DOS owner and would like a SPECTRUM V2 kit for your system we will supply an EPROM, socket and 74HCT32 for \$12 which includes shipping and handling. The install instructions are in your LarKen manual. We shall not be responsible for your install job. AERCO owners need only the SPECTRUM EPROM for \$10

If you have a mismatch between you LarKen DOS EPROM and your Western Digital Controller chip, we will send you the correct one for free on behalf of our friends Rod Gowen of RMG and Larry Kenny of LarKen.

Call in requests to Bob Swoger at W708-576-8068 H708-837-7957

ARTICLES

QLuMSi DOS by Al Feng

The QL.using.M'cr~S~ft.interface (i.e., "QLuMSi") program was quietly announced at the Milwaukee FEST [sponsored by the SMUG group] with little or no fanfare. At the time of the FEST, the code had not yet reached v1.xx [the current version is 3.30].

QLuMSi is what I refer to as a PUI [Prompt User Interface -- rhymes with "phoo-ey"].

QLuMSi is an EXECutable "Disk Operating Simulation" (ergo, the "DOS" part of the name) which has been TURBO-compiled

to run as a front-end and/or tutorial program.

For those with both extra memory and/or disks drives, QLuMSi can be used as a front-end which will give them continuity between a PC used in a different (i.e., "work") environment and their QL.

Even people only using a 128K QL with microdrives can use QLuMSi as a tutorial by which they can learn the rudiments of DOS file management.

QLuMSi eliminates both the high monetary expense of emulator programs and the high operating overhead to the QL's CPU by allowing you to use your standard QL applications.

The following COMMANDS are supported (Typing "HELP" will display this list):

CLS	COPY	DATE	DEL
DIR	FORMAT	FREE	MEM
PRINT	RENAME	STAT	TIME
TYPE	VER	VIEW	

While this may seem to be a limited list of keywords, you will find that this allows for access to most day-to-day file management functions.

Typing "HELP" followed by a supported COMMAND (as listed above) will provide more "help" in the way of various examples of the syntax supported by QLuMSi for that COMMAND.

Under most circumstances, QLuMSi implements COMMANDS in the same manner/syntax as used under MS-DOS.

As you probably know, the industry standard DOS is a non-multi-TASKing environment. So, typing a valid '[filename.ext]' at the PROMPT will EXEC_W any application:

[filename.ext] <ENTER>

If you mis-type the name, or the file does not exist on the medium, then QLuMSi responds with the DOS "Bad command or file name" message.

If the '[filename.ext]' has an extension (e.g., '_exe') then you must include this in the '[filename.ext]'.

Because QDOS is multi-TASKing environment, allowance has been made for EXECing a program. To EXEC a valid program, include the ' /E' SWITCH:

[filename.ext] /E <ENTER>

You can also EXEC_W or EXEC a program from a different PATH from the current PATH. When the current PATH is different from where the application is EXECuted, it remains the default PATH from which data is accessed (NB: do NOT use a space between the '[new_path]' and the '[filename.ext]'; and, remember to include the ':' delimiter):

[new_path][filename.ext] <ENTER>

OR,

[new_path][filename.ext] /E <ENTER>

Designating a different PATH than the current PATH has less meaning under QDOS since as QL applications are configured to look for data on pre-assigned devices; and, will continue to do so under QLuMSi.

Minor variations may exist in execution of file management commands. For example, "DEL" is used to DELETE files. To implement the DEL command, simply type:

DEL [filename.ext]

where '[filename.ext]' is the name of the file to be DELETED. Unlike "real" DOS, you will be prompted with a "(y/n?)" query for confirmation.

To DELETE from a drive other than the current PATH (indicated by the PROMPT) type:

DEL [path][filename.ext]

Limited wild-card DELETING is supported ('DEL *.*') via the QL's WDElete command.

FORMAT is an "external" command on a "normal" DOS computer. Of course, FORMAT is an "internal" command for QDOS. Type:

FORMAT

for the current PATH, or:

FORMAT [path]

You will be prompted to insert a disk into the indicated PATH prior to actual FORMATING.

The LABEL command has not been included. To give your disk a volume label ('disk name'), the '/V' SWITCH parameter should be included at the end of the FORMAT command.

FREE is not a standard DOS command. It is a simulation of a "PC MAGAZINE" utility. For the current PATH, type:

FREE

or, FREE [path]

where '[path_letter]' may be another PATH's designation.

The extra VIEW command is similar to TYPE for displaying a file's contents to the screen. Only the current PATH is accessible. Type:

VIEW [filename.ext]

where '[filename.ext]' is the name of the file you want to see. The difference between VIEW and TYPE is that VIEW can be aborted while TYPE is non-interruptable.

The PATH is the drive_device. The standard, beginning PATH is 'A:'/'flp1_'. To change to 'flp2_' simply type 'b:' or 'B:' followed by the ENTER_key.

The viable PATHs have the following QL equivalents (if supported by your individual system):

A: = FLP1_ M: = MDV1_
B: = FLP2_ N: = MDV2_
C: = FLP3_ O: = MDV3_
D: = FLP4_ P: = MDV4_
E: = FLP5_ Q: = reserved

C: = RAM1_	R: = RDK1_
D: = RAM2_	S: = RDK2_
E: = RAM3_	
H: = RAM4_	T: = reserved
I: = RAM5_	U: = reserved
J: = RAM6_	V: = reserved
K: = RAM7_	
L: = RAM8_	W: = WIN1_
	X: = WIN2_
	Y: = WIN3_
	Z: = WIN4_

Either the DOS delimiter ('period'/'dot'/.') or the QDOS delimiter ('underscore') may be used in filenames.

If QLuMSi has been EXEC'd (vs. EXEC_W), you can toggle to SuperBASIC with a 'ConTRoL C' key combination. You simply type "BASIC" if you want to QUIT the program shell.

While comprehensive on-line HELP is provided is provided within QLuMSi, a "stripped" version (COMMAND_COM; about 5K smaller) with limited help is also provided.

QLuMSi DOS & COMMAND_COM are QRAM, TASKMASTER, and MINERVA compatible.

HAPPY TRAILS, AND COMPUTING,
TO YOU ...

NOTE: For a limited time, NITE-TIMES NEWS readers can purchase a copy of QLuMSi for only \$15.00 (specify disk size). Offer good till May 31, 1991.

If supplied on microcart, send \$20 (you will also be provided with a 5.25" disk unless 3.5" is specified). Send \$16.00 if you supply your own microcart.

Twist_Q & Potpourri
by
N.A. Pashtoon

I had planned a hardware demo for the Feb.'91 meeting of our user group, but because of last minute haste, I had forgotten to bring the driver software to the meeting. The demo was postponed to the next meeting.

In the March meeting I spent an hour to demonstrate the hardware, which henceforth will be referred to as Twist_Q.

Obviously, you are now asking, What is a Twist_Q? For which computer? Why the silly name? etc.

Initially, my goal in designing the Twist_Q was simple: I needed an EPROM programmer for my QL with the constraint that the programmer must operate from any stock QL's "ROM" cartridge port. As the project progressed, the goals changed. Later, I introduced other constraints, which made the design more complicated. The other major constraints were that I must be able to operate the Olinger (for TS2068) EPROM burning board from the Twist_Q, but without any modifications to the Olinger board.

Those of you, who use the Olinger EPROM burner know, that the board was designed to burn 8Kx8 and 16Kx8 EPROMs only, at the leisurely rate of each byte every 50 milliseconds, and without byte by byte verification. I needed to burn the newer, larger EPROMs, such as 32Kx8, 64Kx8, and 128Kx8. Using Olinger's method would have required almost two hours to program the 1 Mb (128Kx8) EPROMs. In order to apply the newer, high energy INTEL EPROM programming algorithm [which applies high energy pulses 100 microsecond wide, verifies the byte, proceeds if programmed alright, otherwise applies the pulse again, etc.], I had to make one concession to the constraint: Don't modify the Olinger burner! On the Olinger burner the 50 millisecond timing pulse is generated by a 555 timer chip. I installed a switch selectable timing resistor in parallel with the existing resistor. Thus when I am using the INTEL high energy programming method, I switch-on the 100 microsecond pulsing, and if I am using the burner with TS2068, I switch to the 50 millisecond pulsing. I also designed an active header board

for the EPROM socket of the Olinger burner, which accommodates not only the physically larger EPROMs, but also provides for the byte-by-byte verification capability.

Because of the aforementioned considerations, Twist_Q was designed to work with any stock QL machine, and has the following capabilities:

- 1) A limited capability TS2068 bus adapter.
- 2) A limited capability PC/XT bus adapter.
- 3) An LCD (liquid crystal display) adapter.
- 4) Provision of a socket for reading and writing to all size EPROMs, and SRAMs.

In the March meeting, in order to demonstrate the capability of writing data bytes to the cartridge port of any stock QL, I expropriated our kind host's QL (Sorry about that, Steve), and demonstrated the following visual demos:

- A) A keyboard interactive output of any data byte to a row of LEDs (light emitting diodes).
- B) A running lights demo on a 12 element calculator LED display, utilizing the 2^{**n} function in a SuperBASIC prog.
- C) A swinging lights display on the 12 element LED calculator display.

The reading of any size EPROMs from on-board socket is useful for copying an EPROM on the spot, programming the byte on the EPROM burner portion of the Twist_Q, and so on.

The concept of the BUCKET was demonstrated in the meeting. So, what is a BUCKET? With the built-in capability of writing to a static RAM, one can definitely use NVRAM (non-volatile (static) random access memory). Suppose you had a similar capability built-in the cartridge slot of your TS2068 machine, you will be

able to write(read) any data on the QL, and read(write) the data on the TS2068, or for that matter an IBM-PC. This method is fast, convenient and it sure beats the serial method of data transmission. One can build NVRAMs from static RAMs with battery backup, but Dallas Semiconductor has already done this job for you and the prices for their products are becoming reasonable. The Dallas Semiconductor NVRAM devices have the normal 2Kx8, 8Kx8, 32Kx8 devices inside a package, which has slightly higher height than the corresponding normal static RAM. In the extra height the good folks in Dallas have accommodated circuitry for sensing power loss and automatic write-protection of the chip, as well as a Lithium battery. Thus the data that you store in the device will be safe for at least ten years in a fresh NVRAM. Otherwise, the NVRAM behaves as any corresponding static RAM. These devices are available from many vendors, but the best source is Dallas Semiconductor themselves. Yes! Dallas Semiconductor is the only manufacturer with toll-free 800 number, where you can get their product directly from them. As far as I am aware there is no minimum. As you are aware, memory pricing is always in flux. In October the 32Kx8 chip was priced \$40. When I ordered a 120 nSec access time 32Kx8 NVRAM at the end of December it cost me \$25. I am sure the prices are even lower now. The toll-free phone for Dallas Semiconductor is:

1-800-336-6933

The device model numbers are:

DS1220 (2Kx8)
DS1225 (8Kx8)
DS1235 (32Kx8)

Specify the speed of the device. I usually use 150 nS or 120 nS devices with the QL and TS2068. The Company has other interesting products also.

For the demo purposes of the

BUCKET in the meeting, I had a ZIF (zero insertion force) socket installed on Twist_Q, as well as on a DOCK cartridge card of the TS2068. Test data was written to the NVRAM on the QL, NVRAM was moved to the TS2068 card, and then read by the TS2068. The process is, of course, reversible.

The concept of the UMBILICAL was introduced and discussed in the meeting. This concept will be demonstrated in some future meeting. For reference purposes, the UMBILICAL is a dual-port static RAM connected by appropriate cables between QL's cartridge port and a TS2068 DOCK cartridge port or with appropriate decoding to say the IBM PC bus. Under program control, parallel data transfers can be effected between any two of these machines.

The Twist_Q has an interface for one type of LCD display. The hardware interface was ready in the March meeting, but the software was not finished. The demo will be ready for the April meeting. Finally, the PC/XT bus adapter portion of the Twist_Q will be demonstrated in the future, with a suitable XT board.

As pointed earlier, because of self imposed constraints and ever expanding goals both the hardware design, and consequently the software of Twist_Q became unnecessarily complicated. The circuitry is all CMOS, and it is powered by the QL power supply. The driver software is all written in SuperBASIC. When I started using the INTEL high energy fast algorithm, the speed of SuperBASIC was just not enough. Using the Turbo compiler, I compiled the programs. I found out that even Turbo compiled drivers were too slowwwwww! At some point I have to rewrite the programs in C, or some other compiled language. We'll see.

If I were redesigning the Twist_Q, I will limit my goal

to the design of an EPROM programmer, and without the constraint of having an Olicer board as a core. Recently, I duplicated the design of the custom HAL (hard array logic, IC38) of the QL mother board. Since I had a few extra pins left over, I also programmed one pin to generate a WRite pulse for the lowest 64k of memory (We will call this signal WR_64K_H). Recall that there is one extra pin on the cartridge port of the QL, which the schematic says is NC(not connected), but in reality it is connected to the +5V supply on the North American (Samsung) motherboard. Breaking the power connection, and connecting the pin to the new signal, i.e. WR_64K_H, we will be able to write to the lowest 64K area of the QL memory map, without hassle. This will simplify both the hardware design, as well as the software drivers of any hardware such as Twist_Q, substantially. By the way, if there is any demand for the New HAL chip, contact me, and I will make this chip available at a reasonable price, shortly.

A final note is in order concerning the provision of different voltages for the programmer. I already had a small power supply for the Olicer programmer. For the purposes of the newer EPROMs I modified the power supply so it now also provides the programming as well as the higher power supply voltages for the newer EPROMs.

Ok, OK, so you still insist on knowing why the name Twist_Q? My initial response could be: Well, Why not? In the age of sound bites, and cute names "Twist_Q" fits the pattern. In the autumn of 1984, I experimented and developed a bus adapter between the TS2068 and the micro drives and other Spectrum products. In a series of articles, starting with the first one in the Dec. 1984 issue of LIST (The Long Island Sinclair Timex newsletter) I called the adapter a Twistor. The name stuck in the Timex

community, and later Zebra Systems and others manufactured three different models to my specifications, known as The Twistor, Super-Twistor, The T-Twistor. The Super_Twistor had RGB adapter, and Spectrum ROM emulation on board. In the present case, as you can see, I borrowed a part of that ancient name for the bus adapters on Twist_Q.

Let me change the subject. In some recent newsletters it was pointed out that a QL emulator for the AMIGA was available from CATUG. This is not true. Let me explain, why the misunderstanding. Before the Milwaukee Fest I had contacted Kowalllik in Germany to supply me with a copy of the QL emulator for the AMIGA. Kowalllik is a doctoral student in Physics. The QL emulator on the AMIGA was just a hack which Kowalllik did for fun. I am providing this explanation, because a recent newsletter stipulated (wrongly) that the emulator was his doctoral project. Any how, Kowalllik supplied me with the emulator, and a few disks of other confidential software. I ran a whole series of tests at the local AMIGA stores, and verified that the emulator is faster than a stock QL by a factor of approximately two, on the Psion quartet, as well as any number of other programs, especially graphics. On my last trip to one of these stores, Al Feng also accompanied me, and we ran a whole series of tests, including the MS DOS emulators. As Al has reported problems cropped up when QRAM and multitasking software was run. The mapping of the QL screen onto the AMIGA (actually the European PAL standard) screen creates a problem; namely, that the whole 25% of the bottom of the screen (Window#0) disappears in the initialization. In other words, it was troublesome to type in commands, without being able to see the commands. I finally put the following BOOT program on the QL diskettes to alleviate the problem:

```
10 MODE 8
20 WINDOW#0,512,30,0,180
30 WINDOW#1,512,180,0,0
40 WINDOW#2,512,180,0,0
50 CLS#0
```

In order to solve the screen mapping problem I wrote to Harvey Taylor, who owns an AMIGA, and who has also written commercial machine code software for the QL. Mind you, my correspondence with Harvey was not just out of the blue. We had technical correspondence before. Some how, this time, Harvey totally disappeared, and I have not heard from him. All these tests of Kowallik's Emulator took place before the Milwaukee FEST. At that time there was a window of opportunity for acquiring an AMIGA 1000 computer with 512K RAM, Disk Drive, brand new Keyboard, and a mouse, for around \$300. I had even finalized the pricing of two units with one of the dealers. I also called up the organizers of the FEST, last minute, to schedule a talk entitled "A Faster QL??". But the deal fell through, and I cancelled the talk upon my arrival at the FEST.

Any how, that was the story of the Kowallik emulator. I was planning to support the emulator through our group, provided that Harvey Taylor had modified it for the NTSC screen standards. Otherwise, it is a defective software, that we (i.e. the CATUG group) can't support. If you need it, get it from the author, or Britain.

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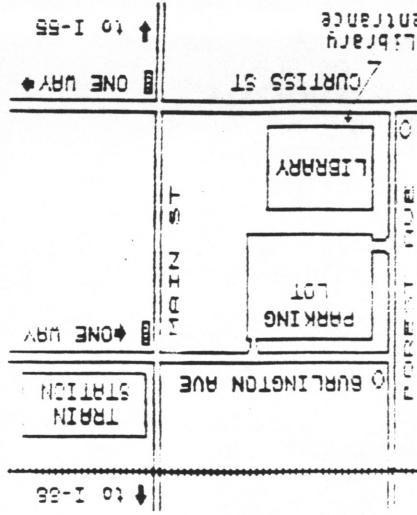
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